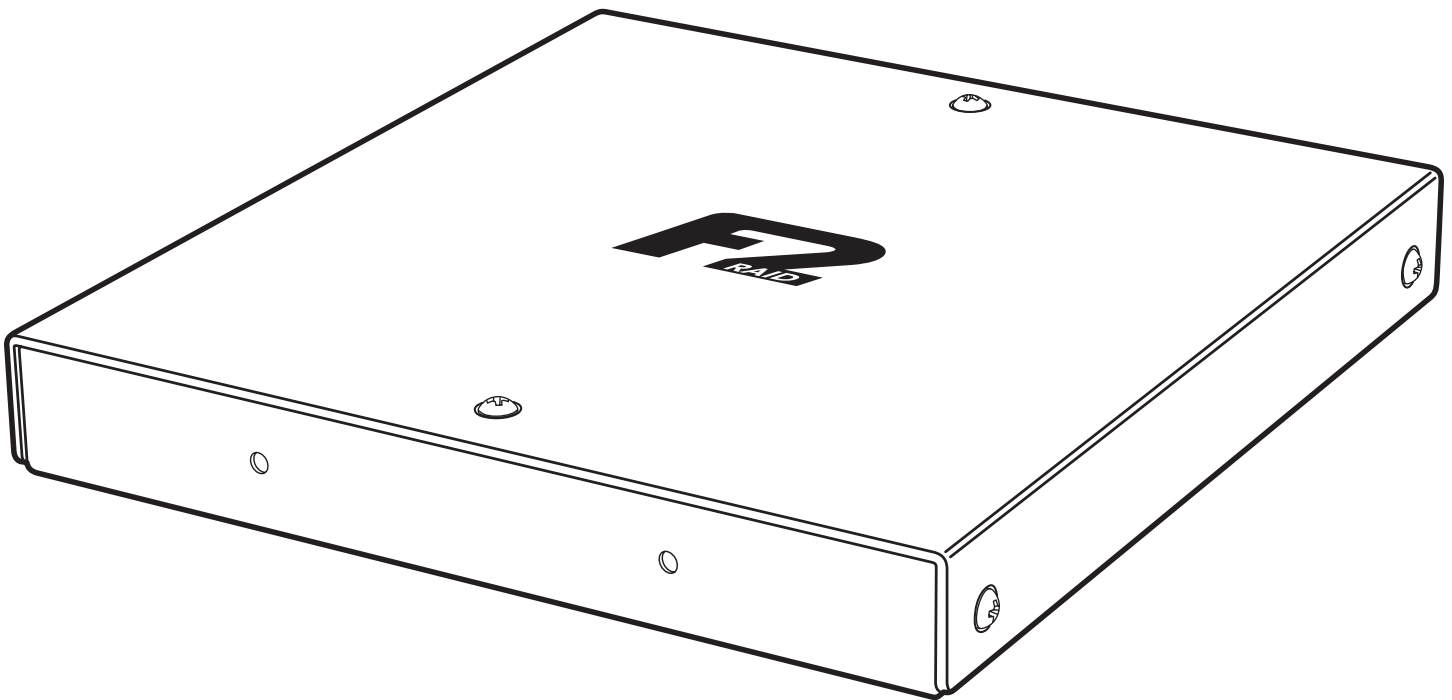


FUSION™ F2QR

Portable 2-Drive Hardware RAID SATA Storage System

User's Guide



USB 1.1 & Hi-SPEED
USB 2.0
READY



For
Windows

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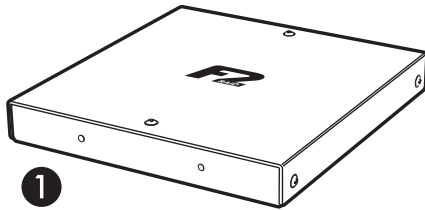
Introduction

Thank you for purchasing the Sonnet Fusion™ F2QR portable 2-drive hardware RAID storage system with quad interface. With its small footprint, low power requirements, and great performance, this rugged device is ideally suited for use in the field or office.

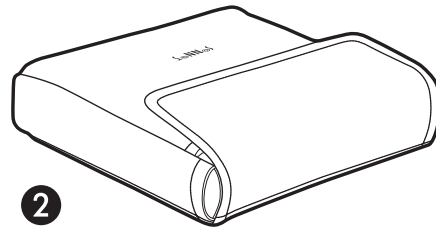
The F2QR's quad interface offers extensive connectivity. Choose eSATA or FireWire 800 for maximum speed or medium speed, respectively. Or, use FireWire 400 or USB 2.0 for flexibility.

The F2QR's built-in hardware RAID controller supports RAID 0 (striped), RAID 1 (mirrored), JBOD (just a bunch of disks) and SPAN configurations without relying on a separate adapter card. Out of the box, the drives inside Fusion F2QR are unconfigured and unformatted. Continue reading to learn how to set the drive configuration to meet your needs.

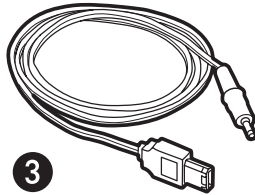
Fusion F2QR Package Contents



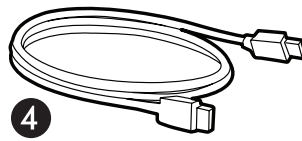
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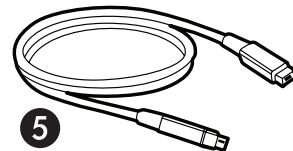
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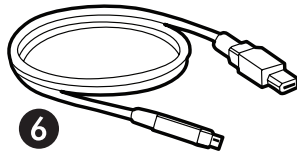
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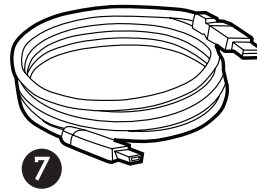
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6



7

1 – Fusion F2QR 2-Drive RAID SATA Storage System

2 – Carrying Case

Store the Fusion F2QR, interface and power cables for on-the-go use.

3 – Power Cable

Power the F2QR using a spare FireWire 400 port on your computer or powered FireWire hub.

4 – eSATA Cable

1-meter eSATA data cable

5 – FireWire 800 Cable

1-meter 9-pin male to 9-pin male cable

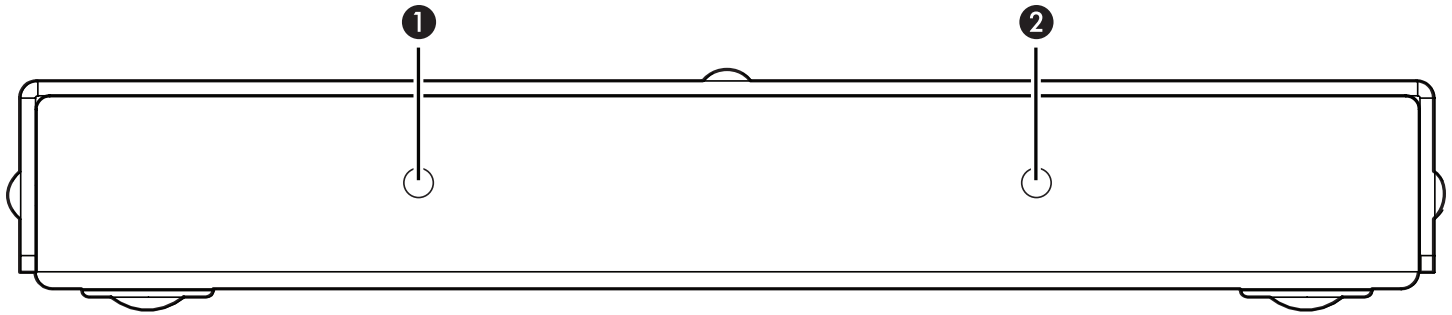
6 – FireWire 400 Cable

1-meter 9-pin male (FireWire 800) to 6-pin male (FireWire 400) cable

7 – USB 2.0 Cable

2-meter A male to mini B male cable

Fusion F2QR Features, Safety Precautions

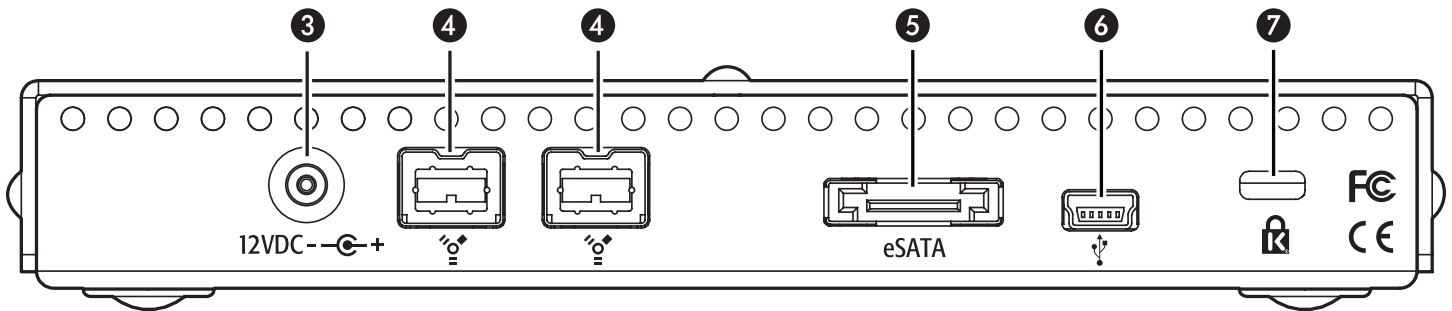


1 – Drive Power and Activity LED Indicator, Drive 2

This LED indicates the drive's ready state (blue LED on), read and write activity (blue LED flashing), drive error and RAID 1 rebuild operation (red LED flashing).

2 – Drive Power and Activity LED Indicator, Drive 1

This LED indicates the drive's ready state (blue LED on), read and write activity (blue LED flashing), drive error and RAID 1 rebuild operation (red LED flashing).



3 – Power Cable Socket

When you connect the Fusion F2QR to your computer using an eSATA or USB cable, you must also provide power to the drives using the included power cable or the optional Fusion World Travel Power Adapter (*part # PWR-UAC-12V*).

4 – FireWire 800 Interface Ports

In addition to FireWire 800, these ports support FireWire 400 connections on computers and adapter cards when used with the included FireWire 400 to FireWire 800 cable. Fusion F2QR may be bus powered (no other power source required) when connected to a powered FireWire port on a computer or hub.

5 – eSATA Interface Port

This port is compatible with standard eSATA data cables. When connected to your computer using the eSATA cable, Fusion F2QR requires a power source.

6 – Mini USB 2.0 Interface Port

When connected to your computer using the USB cable, Fusion F2QR requires a power source.

7 – Security Slot

This slot works with Kensington® brand and similar security locks to secure the Fusion F2QR enclosure and deter theft.

SAFETY PRECAUTIONS

Please read this section carefully before proceeding. These precautions explain the correct and safe use of this device, thereby helping to prevent injury to you or others, and also help you to minimize the risk of damaging the device.

Warnings

Always follow the basic warnings listed here to avoid the risk of serious injury or death from electrical shock, short-circuiting, fire, and other hazards. These warnings include, but are not limited to:

- Do not attempt to disassemble or modify the enclosure. If this device appears to be malfunctioning, contact Sonnet Customer Service.

- Do not drop the enclosure. Dropping or mishandling the enclosure may void the warranty.
- Do not expose the device to rain, use it near water or containers that contain liquids which might spill into any openings, or use it in damp or wet conditions.
- If unusual smells, sounds, or smoke come from the device, or if liquids enter it, disconnect the power cable immediately.
- Follow the instructions in this manual carefully; contact Sonnet Customer Service for additional advice not covered in this manual.

Set Drive Configuration

The drives included in the Fusion F2QR are shipped unconfigured and unformatted. In order to use the F2QR you must first configure the drives (RAID 0, RAID 1, Span, or JBOD) and then format them (Mac OS Extended or NTFS, for example).

A. RAID Master Application Software Download and Installation Steps for Mac OS X Users

In order to set or change the F2QR's drive configuration, you must use the RAID Master application, which you may download from the Sonnet Website.

1. Log onto the Internet.
2. Go to <http://www.sonnettech.com/support/kb/kb.php>, click on the Storage Solutions link, and then click on the Fusion F2QR link.
3. Locate and click the Driver link, then click the Fusion F2QR RAID Master Software (Mac) link, and then click the Download Now button; the file will be downloaded.



Support Note: The RAID Master application operates only with the Mac OS X 32-bit kernel. If your computer automatically starts with the 64-bit kernel, you must reboot it with the 32-bit kernel in order to install and use the RAID Master application. To restart your computer using the 32-bit kernel, select Restart from the Apple menu, and hold the 3 and 2 keys during startup. Your computer will revert to using the 64-bit kernel when you restart your computer again.

4. Double-click the `raid_master_mac_vx.xx_sonnet.zip` file you just downloaded, and then double-click the `RaidToolVx.x.x.dmg` icon. In the *Install-RAID* window, double-click the `RaidToolvx.x.x.mpkg` file to launch the installer; when the *Welcome to the RaidMaster Installer* window appears, click Continue.
5. When the *Standard Install* window appears, accept the default destination or choose a new destination, and then click Install.
6. When asked for a password, enter your password, and then click OK.
7. Click Continue Installation to install the RAID Master application and restart your computer. Skip to "B. Connect Fusion F2QR for Setup".

A. RAID Master Application Software Download and Installation Steps for Windows Users

In order to set or change the F2QR's drive configuration, you must use the RAID Master application, which you may download from the Sonnet Website.

1. Log onto the Internet.

2. Go to <http://www.sonnettech.com/support/kb/kb.php>, click on the Storage Solutions link, and then click on the Fusion F2QR link.
3. Locate and click the Driver link, then click the Fusion F2QR RAID Master (Windows) link, and then click the Download Now button; depending on the OS and how your computer is configured, a new window may appear asking you what to do with the file; click Open. If another window appears asking for permission to open the file, click Allow.
4. When the window showing the contents of the .zip file appears, locate and click the Extract Files button (7 or Vista), or select File > Extract All... from the menu (XP).
5. When the *Extract Compressed (Zipped) Folders* window appears, click Browse.
6. When *Select a destination* window appears, click Desktop, and then click OK; the application will appear on the desktop.

B. Connect Fusion F2QR for Drive Configuration Setup

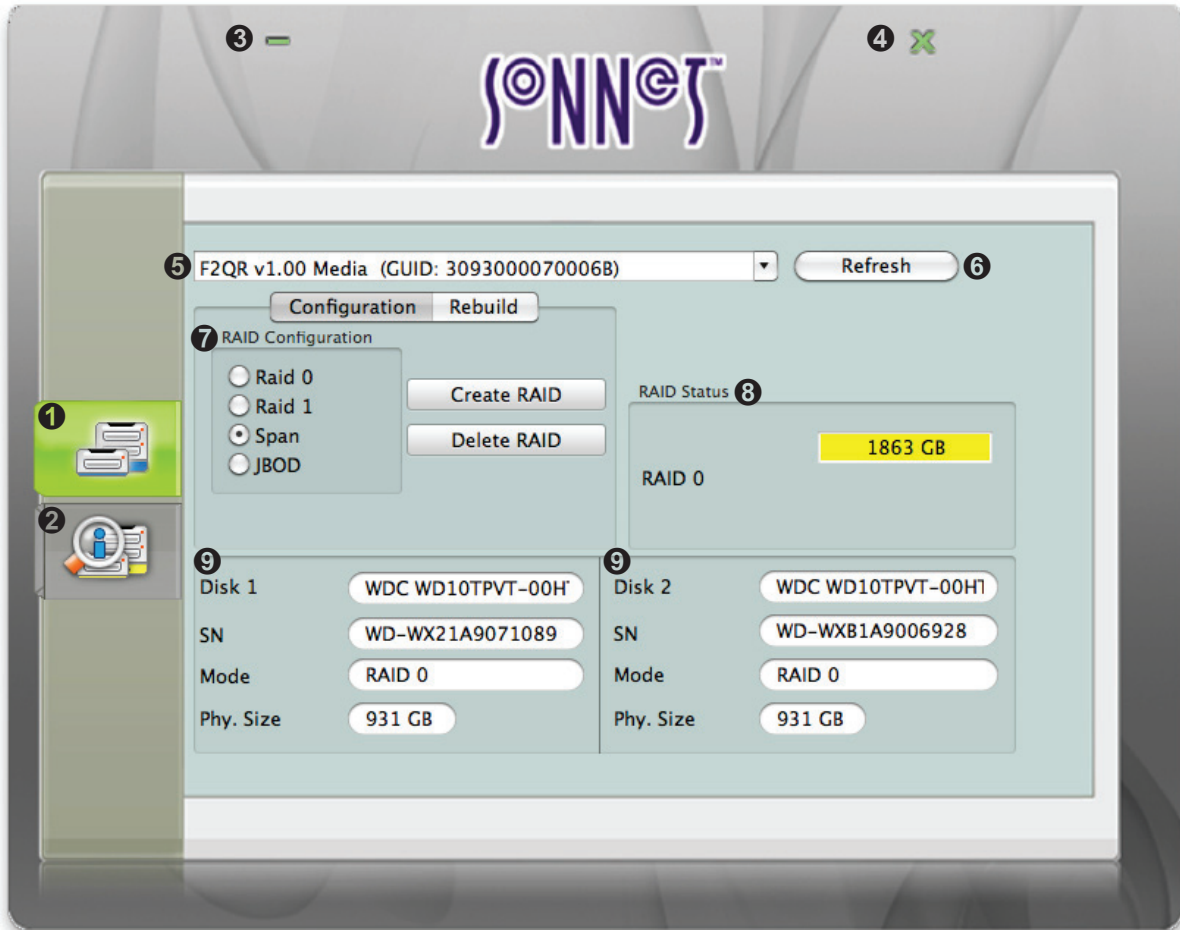
In order to configure the Fusion F2QR's hard drives, you must connect it to your computer via USB or FireWire, *not* eSATA, before using the RAID Master application. After you have configured the drives, you may connect the F2QR to your computer via eSATA.

1. Connect the F2QR to your computer using one of the supplied FireWire or USB cables; **verify the connectors are plugged in securely.**
2. If you connected the F2QR to your computer using a FireWire cable, skip to the next step. Otherwise, connect a power source using either of the following methods; **verify the cable is plugged in securely:**
 - a. Connect the supplied 1-meter power cable between the Fusion F2QR and a FireWire 400 connector on your computer or powered FireWire hub.
 - b. Connect the optional Fusion World Travel Power Adapter (part # PWR-UAC-12V).
3. If you are a Mac user, two windows warning you about an unreadable disk will appear onscreen; click Ignore.

If you are using Windows, go to the next step.

4. Go to the next page for an overview of the RAID Master application, and the following pages for using it and OS formatting tools to set up the F2QR for use with your computer.

Set Drive Configuration



C. RAID Master Application Overview

1 – Detail Tab

Default tab for the RAID Master application. When selected, the window above is displayed.

2 – Summary Tab

Click to display a summary of information on the drives in the Fusion F2QR.

3 – Minimize Button

Click this button to minimize the application to the dock (or taskbar).

4 – Close Button

Click to close the RAID Master application.

5 – Name/Firmware Version of the Selected Storage System

Click the arrow to select another Fusion F2QR when more than one is connected to the computer.

6 – Refresh Button

Click to update the information displayed for the attached Fusion F2QR.

7 – RAID Configuration Setup and Rebuild Field

Click the Delete RAID button to erase the existing drive configuration (including JBOD). Click a RAID Configuration radio button to select a new configuration. Click the Create RAID button to set the new drive configuration (including JBOD and Span).



Support Note: Descriptions of RAID levels can be found on the Wikipedia.org Website at the following address:
http://en.wikipedia.org/wiki/Standard_RAID_levels

8 – RAID Status Field

Indicates the current configuration of the drives in the Fusion F2QR (RAID 0, RAID 1, Span, JBOD), capacity for each drive or RAID group, and health for each drive or RAID group (healthy or degraded).

9 – Detailed Drive Information Field

Displays the manufacturer, model number, serial number, assigned drive configuration, and capacity for both drives.

Set Drive Configuration

D. Set Drive Configuration—All Users

Follow the steps below to set the drive configuration using the RAID Master application.



Support Note for Mac Users: The RAID Master application operates only with the Mac OS X 32-bit kernel. If your computer automatically starts with the 64-bit kernel, you must reboot it with the 32-bit kernel in order to use the RAID Master application. To restart your computer using the 32-bit kernel, select Restart from the Apple menu, and hold the 3 and 2 keys during startup. Your computer will revert to using the 64-bit kernel when you restart your computer again.

1. Launch the RAID Master application; after a short time, the connected F2QR's information will appear (**Figure 1**).
2. With the RAID Configuration field selected, click the radio button next to the RAID configuration you've chosen, and then click Create RAID (**Figure 1**).



WARNING: Changing the Fusion F2QR's RAID configuration will erase all the files on its drives, and the formatting as well. Back up any important files before proceeding.

3. When the *warning* window appears, click OK (**Figure 2**).
4. After a short period of time, the new RAID Configuration information will appear in the RAID Master window.

5. If you are a Mac user, one or two windows warning you about an unreadable disk will appear onscreen; click Initialize to launch the Disk Utility application so you may format the drives for use with your computer (**Figure 3**). Go to the next page.

If you are using the Fusion F2QR with a Windows computer, skip to page 7, Drive Formatting—Windows User's Instructions.

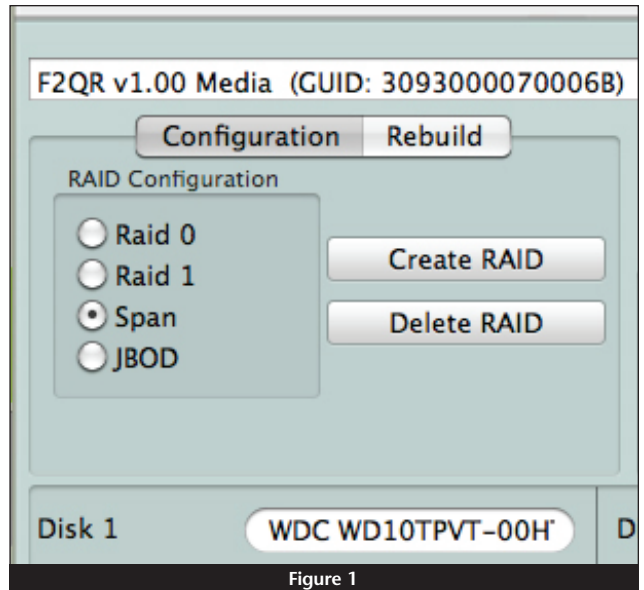


Figure 1



Figure 2

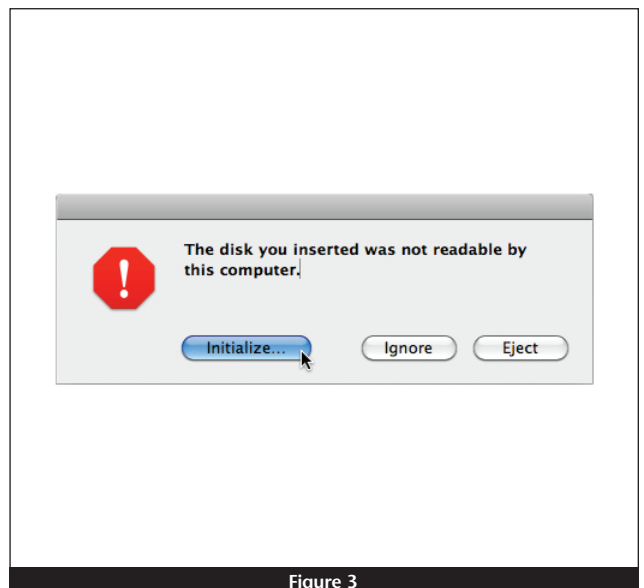


Figure 3

Set Drive Configuration

E. Drive Formatting—Mac OS Users' Instructions

After changing the F2QR's drive configuration using the RAID Master application, you must format the drives using Disk Utility.



WARNING: Formatting the drives will erase any data on them! If there is any data on them, back it up before proceeding.

1. In the *Disk Utility* window, the RAID group will appear as a single volume. Select the Fusion F2QR volume in the pane on the left, and then click the Partition tab on the right (**Figure 4**).



Support Note: If you have selected JBOD configuration for the Fusion F2QR's drives, two F2QR volumes will appear in the *Disk Utility* window. Perform steps 1–4 for each drive.

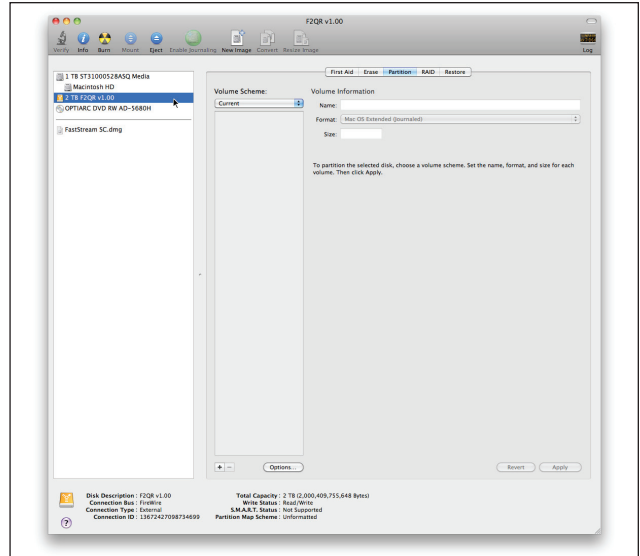


Figure 4

2. Click on the drop-down menu beneath "Volume Scheme:" to select a number of partitions for the volume; you may optionally choose to partition each drive to create two or more smaller "virtual" drives (**Figure 5**).

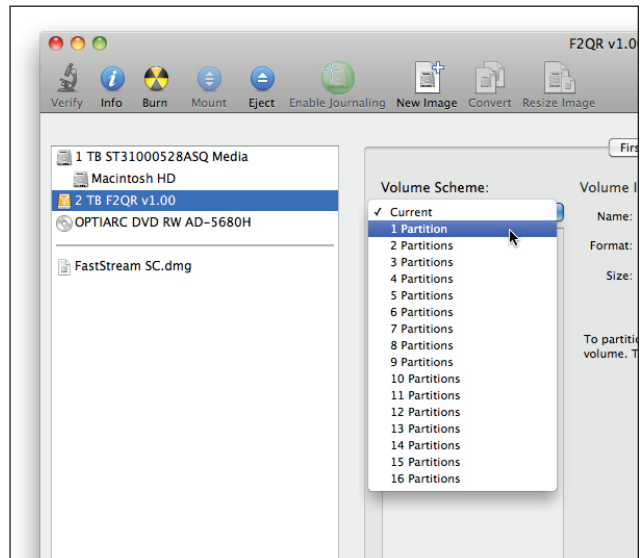


Figure 5

3. Click Options; a window will appear giving the option to select a partition scheme that suits your needs; select a radio button and then click OK (**Figure 6**).
4. Back in the main window, click Apply; a window will appear asking you to confirm that you want to partition the F2QR; click Partition. After being partitioned, the Fusion F2QR volume will appear on your computer's desktop.
5. Close Disk Utility; the F2QR is ready for use.

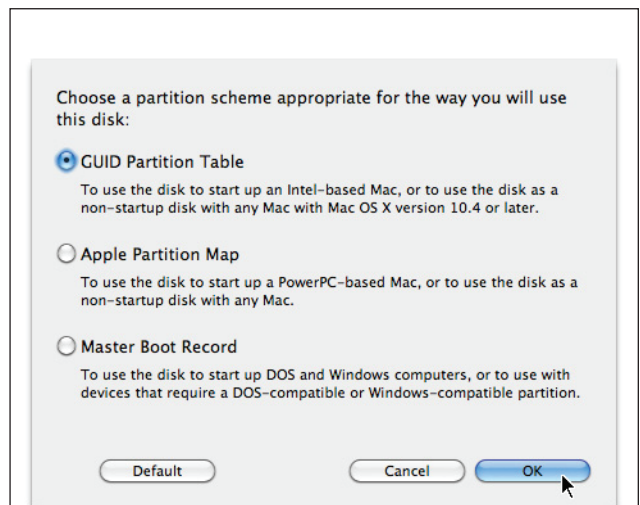


Figure 6

Set Drive Configuration

E. Drive Formatting—Windows Users' Instructions

After setting the F2QR drive configuration using the RAID Master application, you must format the drives using Disk Management. The procedure listed below describes the process of formatting and configuring drives under Windows 7; steps for formatting under other versions are very similar.



WARNING: Formatting the drives will erase any data on them! If there is any data on them, back it up before proceeding.

1. Click Start, then right-click Computer, and then click Manage.
2. In the *Computer Management* window, click Storage in the left pane to expand the list (if necessary), and then click Disk Management.



Support Notes: If you selected JBOD configuration for the Fusion F2QR's drives, two F2QR disks will appear in the *Disk Management* window. Perform steps 3–10 for each drive.

3. If you are using Windows Vista, an *Initialize Disk* window will appear; skip to step 4. If you are using Windows 7, XP, Server 2008 or 2003, when the disks are displayed, the Fusion F2QR's drives will appear as a single volume when configured as RAID 0, RAID 1, or Span (or as two drives if configured as JBOD), and listed as "unallocated". Right-click where the words "Not Initialized" appear and select Initialize Disk (Figure 7).

4. In the *Initialize Disk* window, select GPT, and then Click OK (Figure 8).



Support Note: If you intend to use the Fusion F2QR with a computer running Windows XP 32-bit, select MBR; otherwise, the F2QR will not be recognized by the computer.

5. Back in the *Computer Management* window, right-click where the word "Unallocated" appears, and then select New Simple Volume.
6. When the *New Simple Volume Wizard* window appears, click Next (Figure 9).
7. When the *Specify Volume Size* window appears, click Next if you want all of the capacity to remain as one block (volume). Otherwise, adjust the volume size to meet your needs, and then click Next.
8. When the *Assign Drive Letter or Path* window appears, select Assign the following drive letter, choose a letter, and then click Next.
9. When the *Format Partition* window appears, enter a new name for the volume, select "Perform a quick format", and then click Next.

Note: If you do not select the quick format option, this process will take much longer to complete.

10. When the next window appears, click Finish; once "Healthy (Primary Partition)" appears, the F2QR is ready for use.

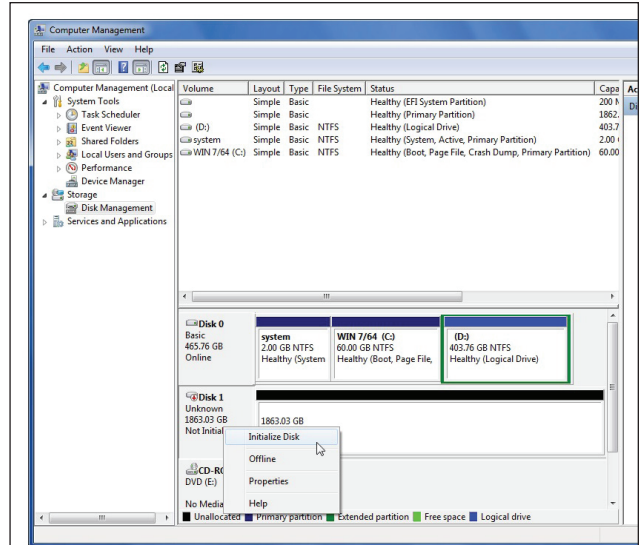


Figure 7

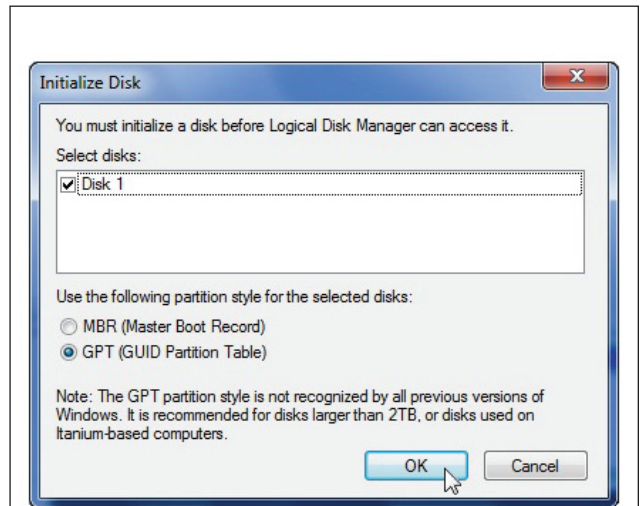


Figure 8

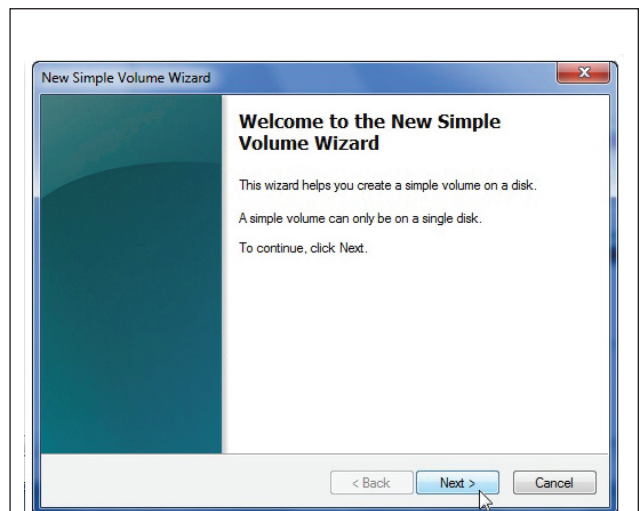


Figure 9

Specifications, Precautions, FCC Compliance, and Support Information

Specifications

Compatibility	Compatible with Mac® and Windows® computers with compatible interface
External Connectors	eSATA, 2 x FireWire 800, mini-USB 2.0, 12VDC @ 3A
OS Support	Mac OS X Version 10.3+; Windows 7, Windows Vista, Windows XP, Windows Server 2008 and 2003
Operating Temperature	32 to 95° F (0° C to +35° C)
Dimensions (WxDxH)	5.9 x 6.1 x .95 in (15 x 15,6 x 2,4 cm)
Weight	1.5 lbs (.68 kg)
RoHS Compliant	Yes
Package Contents	1-meter eSATA data cable, 1-meter FireWire 800 cable, 1-meter FireWire 800 to 400 cable, 2-meter USB 2.0 A to mini A cable, carrying case, User's Guide

Tips

Hot-plugging drives:

Fusion F2QR supports hot-plugging* for Mac users using any interface, and for Windows users using FireWire or USB, or a notebook computer with an eSATA ExpressCard adapter. This function enables you to connect or disconnect the Fusion F2QR without having to shut down your computer. This does not mean you can simply unplug a cable at any time; you must follow the procedures below or you may lose data in the process.

- Before disconnecting your Fusion F2QR, you must put away (eject, unmount, dismount) the drive volume. For Mac OS users, simply drag the drive icon(s) associated with the F2QR to the eject icon on the dock. Windows users using the F2QR connected via FireWire or USB, or with a notebook computer with an eSATA ExpressCard adapter, may left-click the eject icon in the taskbar for the F2QR.
- Mac Users—When disconnecting* the Fusion F2QR in order to connect it to another computer, or another interface (for example, from eSATA to USB), you must also disconnect the F2QR's power source. This will prevent an error message that states the drives were not readable from appearing. If you forget to disconnect power to the F2QR and encounter the message, simply click Ignore, and then disconnect and reconnect the power source; no data will be lost.

* Windows does not provide hot swap support for drives (drive enclosures) connected to a SATA host controller card installed in a desktop PC or server.

Connections:

- **Fusion F2QR supports only one interface at a time.** Do not connect more than one interface cable at a time between the enclosure and computer; no damage will occur, but only one interface will function.

Contacting Sonnet Customer Service

USA Customers

The Sonnet Web site located at www.sonnettech.com has the most current support information and technical updates. Before you call Sonnet Customer Service, please check our Web site for the latest updates and online support files, and check this User's Guide for helpful information. When you call Sonnet Customer Service, have the following information available so our customer service staff can better assist you:

- Product name
- Date and place of purchase
- Hard drive model(s)
- Computer model
- Operating system
- Software/firmware versions

If further assistance is needed, please contact **Sonnet Customer Service** at:

Online Service Form: <http://serviceform.sonnettech.com>

Tel: 1-949-472-2772

(Monday–Friday, 7 a.m.–4 p.m. Pacific Time)

Fax: 1-949-457-6349

E-mail: support@sonnettech.com

For Customers Outside the USA

For support on this product, contact your reseller or local distributor.

Visit Our Website

For the most current product information and online support files, visit the Sonnet Web site at www.sonnettech.com/support/. Register your product online at <http://registration.sonnettech.com> to be informed of future upgrades and product releases.